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U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU

CHARLES F. MARVIN, Chief

Jan 6 1917

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ANNUAL
METEOROLOGICAL
SUMMARY

WITH COMPARATIVE DATA

1916, 17, 21

BOSTON, MASS.

COMPILED UNDER THE DIRECTION OF
JOHN W. SMITH
METEOROLOGIST

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BOSTON, MASS.
WEATHER BUREAU OFFICE

MARKED FEATURES OF THE WEATHER IN 1916.

PRESSURE.

There were no very unusual readings of the barometer during 1916. The lowest of the year was 28.85 inches, sea level, at 4.45 p. m., of December 22nd. This low reading followed a phenomenal drop in the barometer such as is seldom seen, even in tropical hurricanes. Locally, the barometer fell .89 of an inch in the nine hours after the morning observation. The storm center passed rapidly northeastward over, or nearly over Boston, and the ensuing rise was accompanied by the heaviest gale of the year, the wind attaining a rate of 47 miles an hour, from the west. The highest pressure of the year was 30.65 inches at 10.20 a. m., on January 20th.

TEMPERATURE.

The year 1916, like its predecessor, began with a mild January, the mean for both years being 33.0° . The first twenty days of the month averaged near the normal, the accumulated excess of 192° all having been acquired after the 20th. On four days, the 22nd 26th, 27th and 28th the maximum temperature rose above 60° . February was a little colder than usual, conditions favoring the harvesting of an excellent crop of ice in surrounding districts during the latter part of the month. March was moderately cold, while April and May were seasonable. June was cool, and July was notable for its close adherence to normal temperatures, the pronounced discomfort of that month being due to high humidity. The latter half of the year was generally above the normal.

PRECIPITATION.

There was but one storm of importance in January, that of the 1st and 2nd, which brought .82 inch of precipitation, and snow to a depth of 3.7 inches. The total precipitation for the month was deficient by 2.59 inches. But one inch of snow fell after the 3rd, making the snowfall from the beginning of the season to the end of January only 11.7 inches for more than one half of the winter. The season threatened to rank with those of the eight preceding years of light snowfall. In February and March, however, occurred the largest fall of record for two consecutive months in this city. Snowstorm succeeded snowstorm with a remarkable regularity and frequency. The fall in February, 30.3 inches, has been exceeded but once in that month in the last 45 years. In March there fell 33.0 inches, which was 2.7 inches more than the heaviest of record for that month. While the total precipitation in March was .88 inch less than the normal of 4.08 inches, 88 per cent of this was in the form of snow. April was a wet month, with snow to a total depth of 4.2 inches. This made the total for the winter 79.2 inches, the greatest for 42 years. In the winter of 1873-4 the phenomenal total, exceeding that of 1915-6 by 17.2 inches, was due to a whole winter of only moderate excess in snowfall, topped by 27.3 inches in April. May rainfall was .68 inch deficient,

while June and July were wet, with moderate to heavy rains well distributed throughout both months. A torrential down-pour occurred on the afternoon of July 3rd, during which the rate of fall considered by the Weather Bureau as excessive was surpassed for 30 minutes. From the time the excessive rate began, 4.34 p. m., the accumulated amounts for periods from 20 to 30 minutes duration were greater than in any storm since the automatic recording instrument was installed in 1896. The maximum rate of fall, however, was not as great as in the thunderstorm of August 7, 1908, for periods of a half-hour or more. At the end of July there was an excess for the seven months of 2.75 inches. The remainder of the year was deficient in rainfall, resulting in a total for the year 6.14 inches below normal.

HUMIDITY.

The relative humidity in April was well above normal. Damp and humid weather also prevailed during much of the Summer, particularly in July, when the mean, 81.6 per cent, was the highest of record for that month. Much inconvenience was experienced by produce dealers, market-men and householders in keeping stocks of provisions from spoiling; houses and cellars that ordinarily are never damp and musty became so, and the damaging effects of the accumulated dampness were apparent in many ways. Although there was no extremely hot weather, the high humidity caused much physical depression.

WIND.

There was an absence of wind of heavy gale velocity, the highest attained being 47 miles, west, on the morning of December 23d, following the marked barometric depression of the 22nd.

There were two fresh gales in January and one in October.

SUNSHINE.

The first month of 1916, with 50 per cent of the possible sunshine, was the sunniest January since 1908, while February was the least sunny of its name in the 24 years of automatic record. From March to August the amount was near normal.

In September 274.8 hours of sunshine were recorded, exceeded only once in the 24 years of record. October was also the sunniest of its name with one exception, 1901, when there was 1 per cent more.

EXTREMES OF PRECIPITATION AND WIND.

Month.	Precipitation. 1871-1916			Wind. 1871-1916			
	Great- est in 24 hours.	Year.	Day.	Highest velocity.	Direction.	Year.	Day.
January	3.25	1881	21-22	64	ne.	1886	9
February	4.45	1886	12	60	e.	1880	3
March	3.04	1877	26-27	72	s.	1877	9
April	3.18	1904	27-28	60	ne.	1891	3
May	3.00	1883	22	48	e.	1893	4
June	5.35	1875	9-10	41	e.	1903	12
July	4.46	1915	1-2	60	sw.	1879	16
August	4.99	1879	18-19	48	s.	1893	29
September	4.26	1905	3-4	60	n.	1888	26
October	4.92	1895	12-13	54	ne.	1890	19
November	5.43	1876	20-21	65	w.	1875	29
December	2.87	1888	17-18	60	e.	1900	5

STORM WINDS ALONG THE NEW ENGLAND COAST.

[Reprinted from Weather Forecasting in the United States.]

The most dangerous winds are those from the east or northeast, principally the latter, and it is wise to order northeast warnings as soon as a southern or southwestern Low comes within 700 or 800 miles of southern New England, provided there is a HIGH, if only of moderate proportions, to the northward. Under this condition a moderate Low as far south as the lower Mississippi Valley, in winter, the east Gulf coast, or northern Florida, if moving northward or northeastward calls for northeast warnings on the New England coast, as these southern Lows almost invariably increase greatly in intensity and velocity of progression as they move northward, particularly if pressure at Bermuda is quite high. If the ocean pressure off the south coast is not high, the Low will probably be less severe. If the Low is a southwest one, and the middle Atlantic pressure is low, the interior storm center may turn eastward after reaching the upper Ohio Valley and pass off the New Jersey coast. This departure would cause high northerly winds over southern New England, but probably not north of Boston, as the Low would probably decrease, or at least would not increase in energy after turning to the eastward.

High winds from the southeast are very infrequent, and will not occur except with steep barometric gradients. For this reason southeast warnings should not be ordered unless the gradient on both sides of the storm is very pronounced. If the forecaster feels that he must order a southeast warning, he should include in the warning an order to change the warnings to southwest or northwest within a comparatively short time. It will not be necessary to change to northeast unless a mistake was made in the original order.

High southwest winds are probably the most frequent of all high winds on the New England coast. They occur mainly when a well-defined Low from the west moves across New England by way of the upper Great Lakes or the Ohio Valley, provided pressure is fairly high to the eastward and southward. The southwestern Lows are the best type of a high southwest wind producer, as they usually move up the Ohio Valley with steadily increasing intensity, resulting in such steep barometric gradients that high winds must occur. Warnings of southwest winds for the New England coast should usually be ordered when the Low is over the Province of western Ontario, western Lake Erie, or the Upper Ohio Valley. Should there be a strong but yielding HIGH over northeastern Canada or northern New England the winds will not rise to high velocities very quickly, and it may be 15 or 18 hours after the center of the Low has reached the localities above mentioned before the winds increase materially, swinging first around to southeast and south.

The northwest winds following a decided Low will also call for warnings; although being offshore winds, they are less dangerous than others. They set in as soon as the center of the Low passes and the temperature begins to fall, and frequently they will continue with high velocity for some hours after the barometric gradient indicates that there should be a decided moderation. Sharp temperature gradients over limited areas are probably responsible for much of this behavior, and the winds appear to

lessen when the temperature gradient becomes fairly uniform.

As a general proposition the highest winds along the New England coast occur between Boston and Block Island, and especially from Block Island to Nantucket. The recorded wind velocities at Boston do not give a fair indication of those prevailing outside the bay, but reports from Highland Light, at the entrance of Boston Bay, which are always available, give the true conditions. Small-craft warnings are of benefit to fishing craft at all seasons and to pleasure craft in summer.

COLD WAVES IN NEW ENGLAND.

[Reprinted from Weather Forecasting in the United States.]

Cold waves in New England are of two fairly distinct types. The more common one accompanies an area of high pressure that has its inception in the British Northwest or its vicinity, progresses regularly eastward over the northern border States and the southern sections of Canada to the north Atlantic coast. When the HIGH is pronounced and of considerable intensity, the cold wave can be anticipated, at times, several days in advance of its arrival in New England. As a rule, the cold wave is of greater intensity when the HIGH is preceded by a LOW that moves southeasterly over New England, or by diminishing pressure along the southern coast of New England. This type of cold wave is well illustrated in the series of weather maps from January 12 to 14, inclusive, 1914.

The second type is of less frequent occurrence, but at times the cold is of great intensity. It sometimes comes with little premonition, can be forecast but a short time in advance of its arrival, and occasionally it arrives before warnings can be issued. These cold waves accompany HIGHS that, apparently, rapidly move southeastward from the Hudson Bay region, or that develop quickly in southeastern Canada in connection with diminishing pressure in the Ohio Valley and thence eastward. The HIGH moves eastward over New England with attending low temperatures. This type of cold wave is well shown in weather maps of February 9 to 14, 1914. The low temperature in Boston during this cold wave equaled the record of February since the establishing of the station in 1870. Sometimes the first intimation of cold waves of this class is a moderate to strong northerly wind at White River, or Cochrane, Ontario, that cannot be accounted for by the pressure gradient to the southward of these stations, the wind force being due to the HIGH to the northward, outside of the field of observation. Failure to announce cold waves in the forecasts and warnings, if any, generally occurs with conditions under which the latter class is produced.

MAXIMUM PRECIPITATION ON JULY 3, 1916.

Maximum precipitation in 5 minutes, 0.42 inch.

Maximum precipitation in 10 minutes, 0.67 inch.

Maximum precipitation in 15 minutes, 0.85 inch.

Maximum precipitation in 20 minutes, 0.99 inch.

Maximum precipitation in 30 minutes, 1.33 inches.

Maximum precipitation in 1 hour, 1.45 inches.

Maximum precipitation in 2 hours, 1.64 inches.

SUMMARY FOR YEAR 1916, BOSTON, MASS.

Month.	Temperature.				Relative humidity (per cent.).		Precipitation.				Suns'ne		Wind.				Number of days.										
	Mean.		Extremes.		8 a. m.	8 p. m.	Total.	Greatest in 24 hours.	Date.	Snowfall.	Number of hours.	Per cent of possible.	Average hourly velocity.	Prevailing direction.	Highest.		Clear.	Partly cloudy.	Cloudy.	With precipitation (0.01 in. or more).	Snow.	Thunderstorms.	Dense fog.	Max. temp.		Min. temp.	
															Monthly.	Lowest.											
	Maximum.	Minimum.																									

January...	42	24	33	66	26	4	15	69	1.23	.73	1-2	4.8	149	50	11.8	sw.	43	w.	28	2	9	7	15	9	5	0	3	8	0	22	0
February.	33	18	26	57	1	0	21	65	5.18	2.02	25-26	30.3	144	47	12.3	w.	36	w.	19	0	9	8	12	13	8	0	4	13	0	25	0
March.....	38	24	31	55	26	7	18	67	3.20	0.68	6-7	33.0	228	61	11.9	w.	36	ne.	8	0	16	4	11	15	14	2	1	12	0	24	0
April.....	52	39	46	68	1	32	8	72	4.51	1.30	22-23	4.2	206	51	11.4	nw.	32	nw.	18	0	9	7	14	14	4	0	0	0	0	0	0
May	67	50	59	85	25	44	1	71	2.83	2.03	16-17	0	274	61	10.4	sw.	38	w.	12	0	8	13	10	11	0	0	2	0	0	0	0
June	70	55	63	84	27	49	10	77	5.04	1.51	17	0	278	61	9.5	e.	28	e.	8	0	8	11	11	12	0	3	2	0	0	0	0
July.....	80	65	73	93	31	56	5	81	5.67	2.03	3	0	260	56	8.8	sw.	26	ne.	21	0	7	7	17	16	0	9	3	0	5	0	0
August....	80	64	72	95	8	54	29	76	2.19	1.10	28	0	306	71	8.4	sw.	26	w.	14	0	18	7	6	9	0	3	2	0	4	0	0
September	74	56	65	90	14	44	30	75	1.90	0.62	5-6	0	275	73	9.6	sw.	31	s.	15	0	14	12	4	8	0	0	5	0	0	0	0
October ...	64	47	56	84	8	36	18	76	.94	0.61	19-20	0	232	68	10.1	sw.	42	nw.	17	1	14	9	8	7	0	0	4	0	0	0	0
November	50	35	43	68	9	22	21	74	1.67	0.94	30-1	0.7	160	54	10.7	w.	35	w.	25	0	11	8	11	8	2	0	0	1	0	11	0
December.	38	27	33	59	5	10	31	72	3.00	0.83	22	9.5	167	59	12.7	w.	47	w.	23	2	14	7	10	12	5	0	1	9	0	21	0
Year..	57.8	42.0	49.7	95	Aug. 8	0	Feb. 21	74	37.36	2.03	July 1-2	82.5	2678	59	10.6	w.	47	w.	Dec 23	5	137	100	129	134	38	17	27	43	9	103	0

MONTHLY AND ANNUAL MEAN TEMPERATURES.

Year	Jan.	Feb.	Mar.	Apr.	May.	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.	An'l.
1871.	26	29	42	47	58	66	71	72	59	54	37	28	48.9
1872.	27	28	26	47	59	69	76	73	64	52	41	23	48.8
1873.	25	26	34	45	57	67	73	70	63	54	33	32	48.2
1874.	30	27	34	39	55	66	73	68	64	53	42	31	48.6
1875.	20	22	31	43	58	67	72	71	61	50	35	30	46.6
1876.	31	27	33	44	55	69	74	70	60	48	41	22	47.9
1877.	25	34	35	44	55	67	71	72	65	52	44	36	50.1
1878.	28	31	40	48	56	65	74	70	64	56	41	30	50.2
1879.	24	25	34	42	60	65	71	69	62	58	39	32	48.4
1880.	35	32	33	46	64	69	72	71	65	52	38	27	50.3
1881.	22	28	37	44	57	62	70	71	68	54	44	39	49.6
1882.	26	30	36	43	51	67	73	72	64	55	39	30	48.8
1883.	24	29	31	45	56	70	72	68	60	48	43	29	47.9
1884.	24	31	34	44	55	67	69	70	67	53	41	34	49.0
1885.	27	21	28	47	53	67	72	68	60	52	44	33	47.6
1886.	26	27	33	49	57	63	71	68	63	52	43	28	48.4
1887.	25	29	32	44	60	65	75	68	60	52	42	32	48.5
1888.	20	28	32	43	53	67	69	70	60	48	44	35	47.3
1889.	36	26	38	48	60	69	69	67	63	48	45	38	50.7
1890.	32	33	35	46	57	64	71	69	63	51	42	26	49.1
1891.	31	32	34	48	56	65	69	70	67	52	41	40	50.4
1892.	28	28	33	48	56	70	73	70	62	53	41	30	49.4
1893.	21	27	34	44	56	65	71	70	60	55	42	30	47.9
1894.	30	27	42	47	58	69	74	68	65	54	38	32	50.3
1895.	29	25	35	46	60	67	69	71	66	50	45	36	49.8
1896.	25	29	32	47	60	66	72	71	62	50	46	30	49.2
1897.	28	31	37	49	58	62	72	70	63	54	41	34	49.9
1898.	29	33	43	44	56	66	72	73	66	54	42	32	50.8
1899.	29	27	34	48	58	70	73	69	62	54	42	36	50.2
1900.	30	29	34	49	55	69	74	71	65	57	45	33	50.8
1901.	28	24	36	44	54	68	73	71	65	54	37	32	49.0
1902.	27	29	43	48	58	64	68	68	63	54	46	28	49.6
1903.	27	31	44	48	58	60	71	65	64	54	40	29	49.5
1904.	22	23	35	45	61	64	71	69	62	51	38	26	47.1
1905.	25	23	37	47	58	65	73	69	62	54	45	35	49.1
1906.	36	30	32	47	58	66	70	72	65	52	42	29	50.0
1907.	27	22	38	43	52	65	72	70	64	50	43	37	48.7
1908.	31	27	39	47	59	70	74	69	66	55	44	33	51.2
1909.	30	33	37	48	56	69	72	69	63	53	46	31	50.5
1910.	32	30	42	52	58	65	75	69	63	56	41	28	50.8
1911.	32	27	35	46	62	66	77	69	63	53	42	39	50.9
1912.	21	28	36	47	59	68	73	69	64	57	46	38	50.5
1913.	39	28	42	48	55	68	74	71	62	56	46	38	52.3
1914.	29	24	37	45	60	67	69	70	65	57	43	30	49.7
1915.	33	33	36	51	57	64	70	69	67	56	45	34	51.2
1916.	33	36	31	46	59	63	73	72	65	56	43	33	49.7
M'ns	27.0	28.0	35.6	46.1	57.2	66.3	72.0	69.8	63.4	53.1	41.8	31.9	49.4

NOTE.—Bold-faced figures indicate highest and lowest monthly means.

EXTREMES OF TEMPERATURE, 1871-1916.

Month.	High- est.	Year.	Day.	Low- est.	Year.	Day.
January	70	1876	1	—13	1882	24
February	64	1880	29	—11	1896	17
March	78	1910	25	— 8	1914	12
April	87	1914	19	11	1872	6
May	97	1880	26	31	1874	5
June	98	1874	29	42	1882	3
July	104	1911	4	46	1884	2
August	97	{ 1881 1900 }	{ 31 26 }	47	{ 1874 1880 1885 1894 1908 }	{ 22 27 28 22 29 }
September	102	1881	7	34	1879	26
October	90	1881	1	25	1914	29
November	76	1909	12	— 2	1879	26
December	69	1912	6	—12	1875	30
					1883	23

MONTHLY AND ANNUAL PRECIPITATION.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.	An'l.
1818..	2.64	3.49	4.05	6.15	5.96	3.47	4.08	0.46	7.81	2.11	1.91	0.86	42.99
1819..	0.70	2.27	6.21	3.74	3.06	3.56	2.02	4.38	5.29	1.40	1.22	1.63	35.48
1820..	3.12	4.25	4.90	0.45	5.08	3.42	4.19	5.15	2.43	5.39	3.00	2.80	44.18
1821..	1.41	4.42	2.53	4.90	4.84	2.79	2.35	1.58	4.73	2.29	3.12	1.93	36.89
1822..	1.29	2.34	2.02	2.99	0.78	3.54	4.32	1.20	2.15	2.53	2.58	1.46	27.20
1823..	3.00	4.57	7.72	2.21	6.40	0.93	5.74	1.98	1.95	3.95	1.92	6.93	47.30
1824..	3.95	5.99	1.81	4.72	1.43	1.60	0.88	3.68	6.43	1.01	1.72	2.80	36.02
1825..	2.79	3.43	4.70	0.37	1.36	4.77	1.24	5.62	2.66	3.21	0.81	4.38	35.34
1826..	2.55	1.48	3.81	1.50	0.25	3.85	2.90	12.10	3.03	3.80	2.31	3.56	41.14
1827..	3.92	2.97	2.51	4.75	5.34	2.56	2.59	4.88	4.81	5.28	5.71	3.59	48.91
1828..	2.15	2.79	1.84	2.00	4.67	1.59	4.58	0.37	3.82	2.79	5.55	0.26	32.41
1829..	4.93	5.62	4.30	3.45	2.71	1.64	6.98	4.95	2.62	1.65	5.74	2.26	46.85
1830..	2.36	1.63	3.51	1.21	3.03	3.46	4.90	2.64	5.65	2.38	5.32	5.96	42.05
1831..	4.44	3.68	3.07	6.97	3.65	4.32	5.53	5.57	3.83	4.42	3.20	2.93	51.61
1832..	4.47	3.74	2.65	5.56	7.27	0.50	3.41	6.14	2.07	2.46	3.57	4.85	46.69
1833..	2.96	2.53	2.71	2.30	1.03	3.23	2.01	0.82	2.88	6.00	5.53	5.86	37.86
1834..	1.39	1.13	0.96	2.93	6.33	3.09	7.71	2.47	3.71	4.62	2.90	2.36	39.60
1835..	3.25	1.37	4.27	4.54	2.07	2.74	9.07	2.89	1.31	1.87	2.08	2.40	37.86
1836..	8.84	3.57	2.90	1.58	1.85	4.33	2.12	1.53	0.54	4.04	5.43	4.13	40.86
1837..	4.10	4.14	3.02	3.07	5.79	2.98	1.80	1.67	0.56	1.58	2.35	2.46	33.52
1838..	3.07	2.77	3.09	2.62	3.32	2.55	1.20	4.26	9.87	5.02	3.95	0.80	42.52
1839..	0.98	3.11	1.18	7.73	4.27	2.25	3.32	5.70	2.00	2.50	1.71	6.35	41.10
1840..	3.12	2.57	4.55	4.60	2.23	2.78	2.93	4.00	2.12	4.48	11.63	4.15	19.16
1841..	6.00	1.60	3.50	8.82	1.90	1.95	2.10	4.20	2.86	3.80	4.55	5.77	47.05
1842..	0.80	3.20	3.35	3.50	2.90	5.30	1.82	4.44	3.25	0.80	4.45	5.30	39.11
1843..	2.20	6.08	6.17	3.88	1.60	4.61	2.15	6.88	0.98	4.82	3.40	3.92	46.69
1844..	3.68	2.42	6.00	0.20	2.72	1.40	2.17	2.62	3.53	5.80	3.15	3.85	37.54
1845..	4.58	4.25	3.83	1.23	2.82	2.05	3.28	1.82	2.23	4.00	10.25	5.98	46.32
1846..	3.12	2.95	2.73	1.23	2.02	2.25	2.51	1.80	1.30	1.35	4.17	4.52	29.95
1847..	3.28	4.70	4.77	2.20	2.03	4.09	2.65	6.45	6.64	1.05	5.12	3.95	46.93
1848..	2.30	3.90	4.05	1.40	6.30	1.73	1.35	3.10	3.55	5.10	2.25	5.95	40.98
1849..	0.35	1.15	7.35	0.90	3.10	1.45	0.85	6.25	1.25	8.10	5.50	4.05	40.30
1850..	4.59	2.52	5.32	4.82	6.63	2.77	2.70	5.30	7.15	2.10	3.32	6.76	53.98
1851..	1.30	4.20	3.88	9.37	3.31	1.80	3.09	1.27	3.50	4.43	5.51	2.65	44.31
1852..	4.85	2.85	4.45	10.18	1.95	2.35	3.28	7.63	1.65	2.19	3.47	3.09	47.94
1853..	2.44	5.30	2.27	3.78	5.63	0.30	3.64	9.40	3.80	3.92	4.43	3.95	48.86
1854..	2.91	4.87	2.84	6.63	4.33	2.47	3.70	0.58	3.86	2.08	6.80	4.64	45.71
1855..	7.22	4.67	1.18	4.28	1.20	3.09	4.15	1.46	1.13	4.61	5.27	5.93	44.19
1856..	5.32	0.80	1.33	4.37	7.10	2.90	4.02	11.11	4.90	2.70	3.33	4.28	52.16
1857..	5.36	2.45	3.09	10.83	5.57	2.02	5.53	1.18	2.56	4.50	2.52	5.26	50.87
1858..	3.28	2.30	2.18	5.18	3.89	8.09	4.56	7.03	5.02	3.03	3.38	4.73	52.67
1859..	5.93	4.05	7.64	3.36	3.63	7.89	1.58	4.72	4.40	3.28	3.75	6.47	56.70
1860..	1.89	3.55	2.19	1.73	2.35	8.01	5.90	4.30	7.35	2.66	5.37	5.86	51.46
1861..	6.04	3.57	7.48	5.89	2.97	3.64	2.76	6.04	1.77	2.66	4.90	2.35	50.07
1862..	8.30	3.29	4.70	1.97	2.70	6.78	7.33	4.20	5.61	4.85	8.32	3.01	61.06
1863..	4.51	4.54	6.42	9.08	2.82	2.56	12.28	5.64	3.12	3.83	6.48	6.34	67.72
1864..	3.57	1.43	11.75	4.72	3.31	1.47	1.90	4.17	2.60	4.80	4.00	5.28	49.30
1865..	4.47	5.08	4.83	2.57	6.50	2.83	4.26	1.42	0.62	6.21	4.46	4.18	47.83
1866..	3.73	5.28	4.70	2.03	5.04	3.41	5.42	3.87	5.90	2.72	3.74	4.86	50.70
1867..	6.06	6.55	6.12	2.52	4.11	2.74	4.76	10.78	0.44	6.76	2.32	2.48	55.64
1868..	6.09	1.88	5.04	6.94	10.38	3.79	1.10	7.53	11.95	1.78	5.31	2.32	64.11
1869..	4.03	9.98	8.74	2.05	6.88	4.44	3.30	2.19	5.18	6.71	3.74	9.04	66.28
1870..	8.16	7.03	4.88	8.42	2.58	7.59	4.01	1.57	0.67	6.80	4.40	3.62	59.73
1871..	0.92	2.63	4.55	3.79	4.34	5.55	3.22	3.08	1.30	5.88	6.42	3.38	45.06
1872..	2.11	2.31	4.05	1.31	3.29	4.84	4.00	10.68	6.04	4.85	3.66	3.09	50.23
1873..	5.76	3.21	3.76	3.83	5.16	0.54	3.84	6.21	2.91	5.33	8.34	5.64	54.53
1874..	4.32	3.41	1.60	7.97	3.71	3.94	3.47	6.67	2.05	1.39	2.85	2.14	43.52
1875..	3.68	3.74	5.04	4.92	3.76	7.25	3.93	3.50	3.12	4.99	5.47	0.75	50.15
1876..	1.87	4.54	7.19	3.61	2.70	1.72	5.86	1.23	3.84	1.66	11.03	3.71	48.96
1877..	3.33	0.45	9.79	4.19	3.38	3.21	2.27	4.49	0.60	8.84	9.62	1.32	51.49
1878..	7.60	4.40	5.91	6.14	1.03	2.28	4.58	7.66	3.47	6.76	8.94	6.76	65.53
1879..	2.79	4.35	3.90	6.58	0.97	6.24	3.09	6.71	1.84	0.91	2.97	4.22	44.57
1880..	3.72	4.11	3.25	2.85	1.63	0.75	6.86	2.90	2.36	3.15	2.30	3.42	37.30
1881..	7.21	4.89	9.86	1.66	4.16	7.79	2.96	1.23	2.50	2.84	3.73	3.80	52.63
1882..	3.68	4.77	3.35	2.50	6.05	1.03	3.91	1.46	10.93	2.29	1.20	2.65	43.82
1883..	3.59	2.74	2.33	2.83	5.11	2.07	2.73	0.39	1.50	6.40	2.08	3.71	35.48
1884..	6.27	5.74	4.86	4.76	3.31	4.01	4.25	5.01	0.31	3.17	3.03	4.46	49.18
1885..	5.33	3.00	1.15	3.30	4.26	3.70	1.44	7.64	1.70	5.71	5.78	2.09	45.10
1886..	7.08	7.04	3.20	1.70	3.08	1.34	1.81	3.64	2.73	3.27	3.59	3.66	42.14
1887..	4.86	3.69	3.86	2.62	1.67	1.98	3.59	3.05	0.97	2.53	2.22	2.71	33.75
1888..	2.26	2.36	3.32	2.04	5.20	2.69	1.79	6.53	6.77	3.58	4.97	4.38	45.89
1889..	4.11	1.54	1.19	3.07	4.15	2.77	5.80	3.95	3.19	3.31	4.91	1.83	39.82
1890..	2.60	2.29	5.88	2.29	4.48	2.21	1.93	2.70	5.04	5.63	0.97	3.72	39.14
1891..	4.39	3.66	3.94	1.71	1.56	3.06	3.73	3.87	2.29	5.56	2.35	3.58	39.70
1892..	4.62	2.15	3.91	0.93	5.15	3.05	2.56	4.87	1.90	2.31	4.45	1.12	37.02
1893..	2.56	6.22	2.80	3.13	5.23	2.20	1.72	6.46	1.59	2.94	1.83	5.16	41.84

MONTHLY AND ANNUAL PRECIPITATION—Continued.

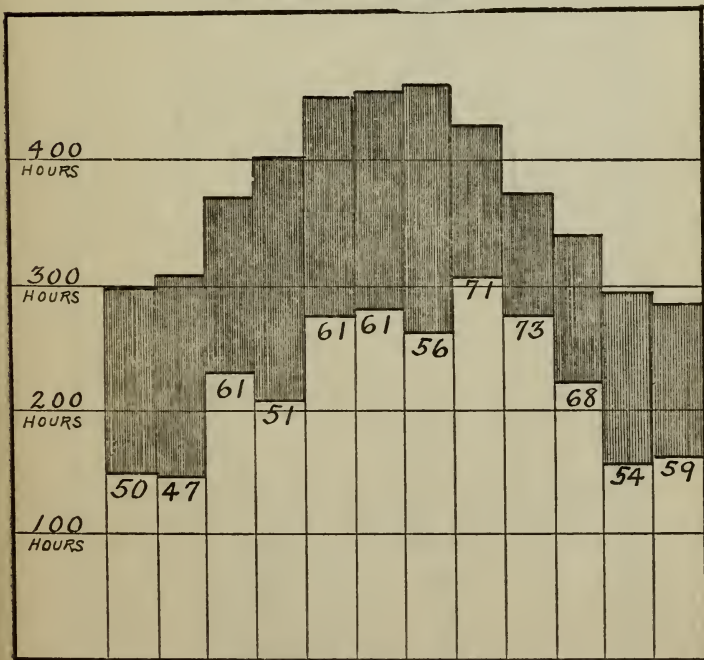
Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	An'l.
1894..	3.01	3.15	1.01	3.78	4.12	0.80	3.09	3.03	2.14	5.11	3.10	4.28	36.62
1895..	3.79	1.11	2.72	3.65	2.71	1.73	2.93	3.24	1.53	6.19	8.07	2.45	40.17
1896..	2.25	3.94	5.41	1.56	1.68	2.71	2.90	2.15	6.40	3.15	3.70	1.70	37.55
1897..	3.16	2.12	2.79	3.17	4.00	4.46	4.22	3.95	2.38	0.41	6.19	3.92	40.77
1898..	3.50	4.81	1.82	6.39	4.33	1.60	4.42	6.38	1.93	7.17	5.32	2.19	49.86
1899..	4.19	3.03	5.95	1.29	0.81	2.86	2.52	2.52	5.09	2.40	2.51	1.52	34.69
1900..	4.20	6.83	4.60	1.90	5.07	1.85	2.69	2.46	4.62	3.41	4.17	2.25	44.05
1901..	1.56	0.66	6.58	7.43	6.31	1.31	5.20	3.25	2.50	3.02	2.41	8.49	48.72
1902..	1.65	4.19	5.29	2.87	1.07	1.77	2.88	2.20	2.08	4.36	1.09	4.48	33.93
1903..	3.43	3.90	5.95	4.43	0.32	7.19	2.99	3.33	2.43	3.95	1.48	2.57	41.97
1904..	4.80	2.49	2.43	9.14	3.38	2.06	1.23	2.19	5.57	2.13	1.70	2.52	39.64
1905..	4.09	1.59	2.25	2.14	1.47	5.23	1.00	3.39	5.10	0.82	1.77	3.23	32.08
1906..	2.96	2.66	5.45	2.15	4.91	2.57	5.38	1.58	2.64	3.88	2.55	3.96	40.69
1907..	2.54	1.88	1.66	3.31	3.12	2.56	1.09	1.10	7.43	2.54	6.02	4.31	37.56
1908..	2.47	2.96	2.97	1.70	3.78	1.08	3.17	4.35	0.68	3.70	0.74	2.47	30.07
1909..	3.94	4.71	3.28	3.92	2.33	4.45	0.97	3.55	5.15	1.07	4.11	3.19	40.67
1910..	4.25	3.44	1.25	2.22	1.02	4.89	1.15	0.98	2.14	1.14	3.75	2.10	28.33
1911..	2.28	2.85	2.95	2.28	0.35	3.67	4.65	4.17	2.95	2.27	4.29	3.07	35.78
1912..	2.87	2.38	4.18	3.07	4.04	0.27	5.16	1.94	1.67	1.00	2.61	5.36	34.55
1913..	2.38	2.99	4.81	4.77	3.22	0.61	2.69	2.86	2.51	6.04	2.15	3.05	38.11
1914..	3.26	3.07	4.16	5.87	2.78	1.40	2.61	3.20	0.21	1.54	2.72	3.46	34.31
1915..	6.33	3.47	T.	1.86	1.64	1.39	8.85	5.63	0.69	2.82	2.14	3.94	38.76
1916..	1.23	5.18	3.20	4.51	2.83	5.04	5.67	2.19	1.90	0.94	1.67	3.00	37.36
M'ns	*3.66	3.41	3.90	3.50	3.23	2.95	3.41	3.77	3.01	3.53	3.85	3.37	41.59
M'ns	†3.70	3.51	4.04	3.79	3.54	3.11	3.55	4.01	3.33	3.58	4.02	3.74	43.92

NOTE.—Bold-faced figures indicate greatest and least monthly amounts.

* Computed from the Weather Bureau records of 46 years.

† Computed from the 99-year record, the data of years prior to 1871 being furnished by Mr. I. Y. Chubbuck, of Roxbury.

SUNSHINE CHART.

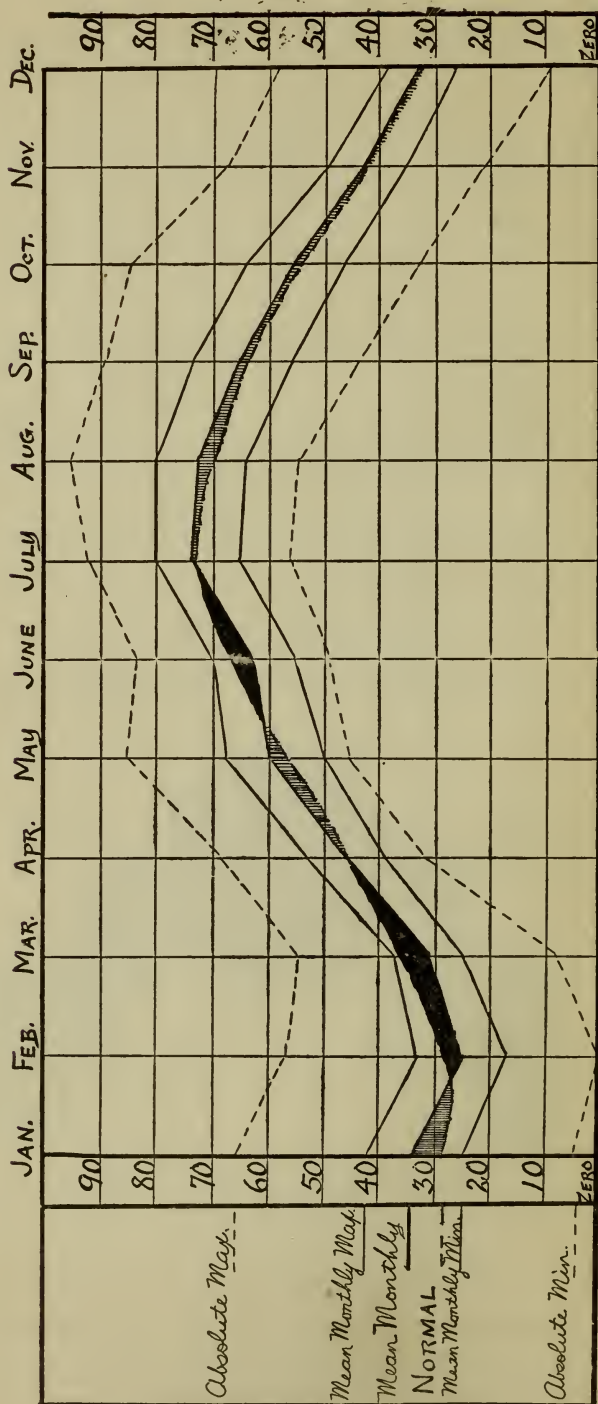


Jan. Feb. Mar. April May June July Aug. Sept. Oct. Nov. Dec.

The height of the column indicates the total possible number of hours of sunshine in each month. Figures above the columns are monthly percentages.

The shaded areas show the number of daylight hours of obscured sunlight in each month. The unshaded areas show the number of hours of actual sunshine in each month.

TEMPERATURE CHART, 1916.



Partly shaded area shows excess and black area shows deficiency from normal.



The dotted line represents the normal accumulated precipitation, in inches. The solid line shows the accumulated precipitation, in inches, during 1916.

MISCELLANEOUS DATA FOR 1916.

Barometric Pressure (reduced to sea-level). Mean, 30.00 inches; highest, 30.65 inches, January 20; lowest, 28.85 inches, December 22.

Temperature. Greatest daily range, 36°, April 26; least daily range, 1°, June 10. Greatest monthly range, 62°, January; least monthly range, 35°, June. Highest mean temperature of three consecutive days, 80°, August 6-8; lowest mean temperature of three consecutive days, 13°, February 13-15.

Precipitation. Longest period without precipitation, 12 days, July 27 to August 7. Longest period with precipitation, 7 days, March 2-8.

Frost. In Spring—Last killing frost occurred on April 9. In Autumn—First killing frost occurred on November 6.

Snow. Greatest snowfall in 24 hours, 11.5 inches, February 2-3. Greatest depth of snow on the ground, 16.9 inches, February 13. Last snow in spring occurred on April 28; first snow in autumn occurred on November 12.

Thunderstorms. First thunderstorm, March 8; last thunderstorm, August 28.

SEASONAL SNOWFALL.

Years.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Season.
1871-2.....	0	T.	12.3	3.4	11.3	17.3	0	0	44.3
1872-3.....	0	0.3	23.7	11.6	8.3	5.2	T.	T.	49.1
1873-4.....	0	7.5	13.7	20.3	22.7	3.9	28.3	0	96.4
1874-5.....	0	T.	5.7	10.4	0.3	27.3	6.3	0	50.0
1875-6.....	0	T.	1.1	0.5	3.7	T.	T.	0	5.8
1876-7.....	0	0.3	9.0	17.5	T.	7.9	T.	0	34.7
1877-8.....	T.	T.	0.8	14.3	12.6	T.	0	0	27.7
1878-9.....	0	0.3	1.2	18.2	20.7	4.7	T.	0	45.1
1879-0.....	0	6.0	18.6	3.2	11.4	9.6	0	0	48.8
1880-1.....	0	0.8	19.2	20.5	9.0	0.1	4.2	0	53.8
1881-2.....	0	1.5	T.	15.4	17.9	5.6	0	0	40.4
1882-3.....	0	10.0	6.0	9.6	9.0	4.3	0	0	38.9
1883-4.....	0	T.	24.4	1.1	12.5	15.0	9.5	0	62.5
1884-5.....	0.5	4.8	2.3	3.9	3.3	9.5	T.	0	21.3
1885-6.....	0	0.5	5.5	26.0	4.0	4.5	T.	0	40.5
1886-7.....	0	0	18.5	16.0	12.0	11.5	15.0	0	73.0
1887-8.....	0	T.	6.5	13.1	9.6	12.0	T.	T.	41.2
1888-9.....	0	4.8	0	4.5	7.5	2.2	0	0	19.0
1889-0.....	0	T.	4.0	8.5	6.3	20.3	0	0	39.1
1890-1.....	0	T.	14.5	14.8	13.8	16.2	T.	0	59.3
1891-2.....	T.	0	T.	12.0	11.5	20.0	0	0	43.5
1892-3.....	0	3.0	2.0	14.6	35.3	4.5	7.9	0	67.3
1893-4.....	0	0.4	18.5	15.0	21.6	T.	8.5	0	64.0
1894-5.....	0	6.7	13.5	13.9	8.8	3.8	0.5	0	47.2
1895-6.....	0	T.	5.2	9.5	9.5	14.5	0.2	0	38.9
1896-7.....	0	2.2	8.6	18.2	10.9	3.3	T.	0	43.2
1897-8.....	0	8.1	7.8	16.3	11.5	6.0	2.2	0	51.9
1898-9.....	0	17.8	7.7	6.1	30.2	9.3	T.	0	71.1
1899-0.....	T.	0.1	T.	8.3	9.0	7.6	0	T.	25.0
1900-1.....	0	0.1	0.8	7.8	8.8	T.	0	0	17.5
1901-2.....	0	0	12.6	11.0	13.0	7.5	T.	0	44.1
1902-3.....	T.	T.	22.8	4.2	14.7	0.3	T.	0	42.0
1903-4.....	0	0	10.6	35.7	16.5	8.9	1.4	0	73.1
1904-5.....	T.	0	12.0	21.3	8.0	3.6	T.	0	44.9
1905-6.....	0	T.	3.5	6.1	6.1	21.9	T.	0	37.6
1906-7.....	0	1.1	15.5	16.1	25.5	6.6	3.1	T.	67.9
1907-8.....	0	0	7.0	4.3	9.3	4.8	0.8	0	26.2
1908-9.....	0	T.	3.5	11.2	2.3	3.1	0	0	20.1
1909-0.....	T.	T.	12.3	11.9	12.6	0.2	0	0	37.0
1910-1.....	0	1.4	8.2	0.7	19.5	3.1	7.7	0	40.6
1911-2.....	0	0.3	3.7	17.8	0.2	9.1	0.5	0	31.6
1912-3.....	0	0.3	9.2	0.3	7.7	0.5	1.4	0	19.4
1913-4.....	0.4	T.	0.9	10.3	20.6	5.2	2.0	0	39.4
1914-5.....	T.	T.	4.1	7.0	5.1	T.	6.1	0	22.3
1915-6.....	0	0.2	6.7	4.8	30.3	33.0	4.2	0	79.2
1916.....	0	0.7	9.5
Means.....	T.	1.7	8.5	11.5	12.1	7.9	2.4	T.	44.1

U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
CHARLES F. MARVIN, Chief

ANNUAL
METEOROLOGICAL
SUMMARY

WITH COMPARATIVE DATA

1921

BOSTON, MASS.

COMPILED UNDER THE DIRECTION OF
JOHN W. SMITH
METEOROLOGIST

C
BOSTON, MASS.
WEATHER BUREAU OFFICE
JANUARY 6, 1922

MONTHLY AND ANNUAL MEAN TEMPERATURES.

Year	Jan.	Feb.	Mar.	Apr.	May.	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Anl.
1871.	20.0	23.0	41.5	47.0	57.9	65.9	70.0	71.7	59.3	54.0	36.6	27.9	48.9
1872.	27.4	28.1	26.0	46.6	59.4	68.9	75.6	73.0	64.5	51.8	40.6	23.2	48.8
1873.	25.1	26.3	33.9	45.0	56.8	67.3	72.9	69.8	62.8	53.5	33.4	32.0	48.2
1874.	30.5	27.0	34.4	38.8	55.4	66.0	72.6	68.0	64.4	53.2	41.6	31.3	48.6
1875.	20.1	22.3	31.4	42.6	57.9	66.7	72.1	71.0	60.6	50.2	35.0	29.6	48.6
1876.	30.7	27.4	33.4	43.9	54.6	68.8	74.0	70.2	59.9	48.2	41.4	22.2	47.1
1877.	24.8	34.2	31.9	44.2	55.0	66.8	71.1	72.2	65.2	52.0	44.2	36.4	50.1
1878.	28.0	30.6	39.6	48.2	56.5	61.6	73.7	69.7	64.2	56.1	40.8	30.3	50.2
1879.	21.2	24.6	33.6	42.4	60.2	64.8	70.8	69.3	62.0	57.6	38.8	32.3	48.4
1880.	34.6	31.8	33.2	46.4	63.7	68.6	71.9	70.8	65.2	52.2	38.2	26.7	50.3
1881.	22.0	27.9	37.2	43.6	56.6	61.7	70.2	71.4	67.6	54.4	43.6	39.0	49.6
1882.	26.0	30.4	36.0	42.8	50.6	66.8	73.2	71.5	64.0	55.4	39.0	30.4	48.8
1883.	24.4	28.8	30.8	45.2	56.5	70.1	71.7	68.2	59.8	47.7	42.8	29.1	47.9
1884.	24.1	31.2	34.2	43.8	54.8	67.2	68.6	69.7	66.9	52.6	41.4	33.8	49.0
1885.	27.4	20.6	27.6	47.2	53.2	66.8	71.8	67.8	60.1	51.6	44.0	32.7	47.6
1886.	25.8	26.6	33.3	48.6	56.8	63.2	71.2	68.2	63.1	52.0	43.2	28.4	48.4
1887.	25.0	28.7	31.5	44.2	59.6	65.2	74.6	67.6	59.8	51.5	42.2	32.4	48.5
1888.	20.1	28.3	32.2	42.6	53.0	66.8	68.8	70.2	59.8	47.8	43.8	34.6	47.3
1889.	35.8	26.0	38.2	47.8	60.3	69.2	69.4	67.4	62.8	48.5	44.6	38.0	50.7
1890.	32.4	33.2	34.9	46.3	57.0	64.2	71.0	68.9	62.9	51.0	41.8	26.0	49.1
1891.	31.1	32.0	33.6	48.0	55.8	65.0	69.0	70.0	66.7	51.6	41.4	40.4	50.4
1892.	28.3	28.4	32.9	48.4	55.9	69.6	73.0	70.2	62.5	52.7	41.2	29.9	49.4
1893.	20.7	26.8	33.8	44.4	56.3	64.8	71.4	69.6	60.0	54.8	42.2	30.4	47.9
1894.	30.1	26.6	42.5	47.0	57.6	68.8	73.7	68.0	64.8	54.0	38.2	32.2	50.3
1895.	28.8	24.6	34.6	46.0	60.2	66.8	69.3	71.0	65.7	49.6	45.4	35.6	49.8
1896.	24.9	28.7	32.0	47.2	60.3	66.1	71.8	70.7	62.2	50.2	46.5	30.4	49.2
1897.	28.4	30.9	36.9	49.0	57.6	62.3	71.6	69.6	63.1	54.4	41.4	34.0	49.9
1898.	28.7	32.8	42.8	43.8	55.8	65.8	71.8	73.1	66.2	54.2	42.0	32.0	50.8
1899.	29.0	26.8	34.0	48.1	57.8	70.0	72.6	68.8	62.0	54.5	42.1	36.2	50.2
1900.	30.0	29.3	34.0	48.6	55.2	68.6	73.8	71.1	65.0	56.6	44.6	33.4	50.8
1901.	27.6	24.2	36.2	43.5	54.3	68.2	73.4	70.7	65.4	54.4	37.2	32.4	49.0
1902.	26.6	28.8	43.4	48.4	57.6	64.3	67.8	67.6	62.6	53.6	46.2	28.5	49.6
1903.	26.8	31.4	44.4	47.8	58.5	59.8	71.4	65.0	64.4	53.9	40.0	29.0	49.5
1904.	21.6	22.6	34.6	41.6	60.8	64.0	71.4	68.7	62.5	50.6	38.2	25.8	47.1
1905.	25.1	23.4	37.2	46.8	57.6	65.2	73.2	68.6	62.0	53.6	41.6	35.1	49.1
1906.	35.7	29.7	32.4	47.2	58.0	66.4	70.1	72.0	65.0	52.5	41.7	29.1	50.0
1907.	27.0	21.6	37.9	43.4	52.4	65.1	72.4	69.6	64.4	49.8	43.2	37.2	48.7
1908.	31.0	26.8	38.6	46.8	59.0	69.8	74.1	69.4	65.8	55.4	43.6	33.3	51.2
1909.	30.3	32.6	36.8	47.8	55.8	69.4	71.5	69.4	62.6	52.8	46.4	30.8	50.5
1910.	32.0	29.5	42.0	51.6	57.6	65.2	74.9	68.8	62.8	56.0	41.2	27.5	50.8
1911.	31.8	27.0	35.4	46.1	62.4	65.6	77.1	69.0	62.6	52.6	41.8	39.4	50.9
1912.	21.4	27.7	36.0	47.4	58.6	68.0	73.2	69.0	63.7	57.4	45.6	38.5	50.5
1913.	39.2	27.7	42.4	48.0	55.2	67.5	73.8	70.8	62.0	56.4	46.5	37.8	52.3
1914.	28.7	24.3	36.7	45.3	60.4	67.3	68.6	70.4	64.6	57.0	42.7	30.4	49.7
1915.	33.0	33.2	35.8	50.8	56.6	63.9	70.1	69.1	66.8	55.7	45.4	34.2	51.2
1916.	33.0	25.5	30.6	45.6	58.6	62.6	72.6	71.8	65.0	55.5	42.6	32.6	49.7
1917.	30.2	25.8	37.2	44.0	50.7	65.8	73.3	72.8	60.2	51.9	39.4	23.7	47.9
1918.	21.0	26.9	36.7	47.8	63.3	63.9	71.0	70.4	61.2	56.2	45.0	34.7	49.8
1919.	33.2	32.6	40.8	46.9	59.1	67.2	74.0	68.8	63.9	55.1	42.8	28.7	51.1
1920.	21.0	27.6	30.2	45.0	54.6	65.8	72.4	72.0	65.2	59.8	41.7	35.6	50.0
1921.	32.1	32.6	46.2	51.8	58.0	68.2	73.2	69.8	68.5	55.2	41.6	31.4	52.4
M'ns	27.9	28.1	36.0	46.2	57.2	66.3	72.0	69.8	63.4	53.3	41.9	31.9	49.5

NOTE.—Bold-faced figures indicate highest and lowest monthly means.

MISCELLANEOUS DATA FOR 1921.

Barometric Pressure (reduced to sea-level). Mean, 30.03. inches; highest, 30.90 inches, January 19; lowest, 29.30 inches, December 12.

Temperature. Greatest monthly range, 63°, March; least monthly range, 27°, September. Highest mean temperature of three consecutive days, 83°, July 25–27; lowest mean temperature of three consecutive days, 16°, January 18–20.

Precipitation. Longest period without precipitation, 18 days August 19 to September 5. Longest period with precipitation, 7 days, April 27 to May 3. Greatest amount in 24 consecutive hours, 6.04 inches, July 9: maximum amount in 5 minutes, 0.41 inch, August 18: 10 minutes, 0.58 inch; 30 minutes, 1.00 inch: 1 hour, 1.12 inches; July 9.

SEASONAL SNOWFALL.

Years.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Season.
1871-2.....	0	T.	12.3	3.4	11.3	17.3	0	0	44.3
1872-3.....	0	0.3	23.7	11.6	8.3	5.2	T.	T.	49.1
1873-4.....	0	7.5	13.7	20.3	22.7	3.9	23.3	0	96.4
1874-5.....	0	T.	5.7	10.4	0.3	27.3	6.3	0	50.0
1875-6.....	0	T.	1.1	0.5	3.7	T.	T.	0	5.3
1876-7.....	0	0.3	9.0	17.5	T.	7.0	T.	0	34.7
1877-8.....	T.	T.	0.8	14.3	12.6	T.	0	0	27.7
1878-9.....	0	0.3	1.2	18.2	20.7	4.7	T.	0	45.1
1879-0.....	0	6.0	18.6	3.2	11.4	9.6	0	0	48.8
1880-1.....	0	0.8	19.2	20.5	9.0	0.1	4.2	0	53.8
1881-2.....	0	1.5	T.	15.4	17.0	5.6	0	0	40.4
1882-3.....	0	10.0	6.0	9.6	9.0	4.3	0	0	38.9
1883-4.....	0	T.	24.4	1.1	12.5	15.0	9.5	0	62.5
1884-5.....	0.5	4.8	2.3	3.9	3.3	9.5	T.	0	24.3
1885-6.....	0	0.5	5.5	26.0	4.0	4.5	T.	0	40.5
1886-7.....	0	0	18.5	16.0	12.0	11.5	15.0	0	73.0
1887-8.....	0	T.	6.5	13.1	9.6	12.0	T.	T.	41.2
1888-9.....	0	4.8	0	4.5	7.5	2.2	0	0	19.0
1889-0.....	0	T.	4.0	8.5	6.3	20.3	0	0	39.1
1890-1.....	0	T.	14.5	14.8	13.8	16.2	T.	0	59.3
1891-2.....	T.	0	T.	12.0	11.5	20.0	0	0	43.5
1892-3.....	0	3.0	2.0	14.6	35.3	4.5	7.9	0	67.3
1893-4.....	0	0.4	18.5	15.0	21.6	T.	8.5	0	64.0
1894-5.....	0	6.7	13.5	13.9	8.8	3.8	0.5	0	47.2
1895-6.....	0	T.	5.2	9.5	9.5	14.5	0.2	0	38.9
1896-7.....	0	2.2	8.6	18.2	10.9	3.3	T.	0	43.2
1897-8.....	0	8.1	7.8	16.3	11.5	6.0	2.2	0	51.9
1898-9.....	0	17.8	7.7	6.1	30.2	9.3	T.	0	71.1
1899-0.....	T.	0.1	T.	8.3	9.0	7.6	0	T.	25.0
1900-1.....	0	0.1	0.8	7.8	8.8	T.	0	0	17.5
1901-2.....	0	0	12.6	11.0	13.0	7.5	T.	0	44.1
1902-3.....	T.	T.	22.8	4.2	14.7	0.3	T.	0	42.0
1903-4.....	0	0	10.6	35.7	16.5	8.9	1.4	0	73.1
1904-5.....	T.	0	12.0	21.3	8.0	3.6	T.	0	44.9
1905-6.....	0	T.	3.5	6.1	6.1	21.9	T.	0	37.6
1906-7.....	0	1.1	15.5	16.1	25.5	6.6	3.1	T.	67.9
1907-8.....	0	0	7.0	4.3	9.3	4.8	0.8	0	26.2
1908-9.....	0	T.	3.5	11.2	2.3	3.1	0	0	20.1
1909-0.....	T.	T.	12.3	11.9	12.6	0.2	0	0	37.0
1910-1.....	0	1.4	8.2	0.7	19.5	3.1	7.7	0	40.6
1911-2.....	0	0.3	3.7	17.8	0.2	9.1	0.5	0	31.6
1912-3.....	0	0.3	9.2	0.3	7.7	0.5	1.4	0	19.4
1913-4.....	0.4	T.	0.9	10.3	20.6	5.2	2.0	0	39.4
1914-5.....	T.	T.	4.1	7.0	5.1	T.	6.1	0	22.3
1915-6.....	0	0.2	6.7	4.8	30.3	33.0	4.2	0	79.2
1916-7.....	0	0.7	9.5	13.1	8.9	12.9	9.1	T.	54.2
1917-8.....	0	2.2	7.0	13.8	5.7	12.8	4.2	0	45.7
1918-9.....	0	T.	8.4	4.1	6.2	2.4	0	0	21.1
1919-0.....	0	0.2	2.9	24.8	32.5	11.0	2.0	T.	73.4
1920-1.....	0	1.8	5.5	3.6	23.2	T.	T.	0	34.1
1921.....	0	1.6	4.4						
Means.....	T.	1.7	8.2	11.5	12.4	7.9	2.5	T.	44.4

Frost. In Spring—Last killing frost occurred on April 2. In Autumn—First killing frost occurred on October 26.

Snow. Greatest snowfall in 24 hours, 16.0 inches, February 20. Greatest depth of snow on the ground, 15.6 inches, February 20. Last snow in spring occurred on April 18; first snow in autumn occurred on November 7.

Thunderstorms. First thunderstorm, March 8; last thunderstorm, December 2.

The features of the year were the high average temperature, and the ice or glaze storm that occurred from November 26 to 29. This storm caused no damage within a few miles of the coast, but over the greater portion of eastern Massachusetts, southern New Hampshire and parts of Rhode Island and Connecticut great damage was done to wire systems, and irreparable injury to fruit and shade trees; the oldest trees showed no evidence of any previous storm of such severity.

SUMMARY FOR YEAR 1921, BOSTON, MASS.

BOSTON, MASSACHUSETTS.

Month.	Temperature.				Relative humidity (per cent.).	Precipitation.				Suns'ne		Wind.			Number of days.																
	Mean.		Extremes.			Total.	Greatest in 24 hours.	Date.	Snowfall.	Number of hours.	Per cent of possible.	Average hourly velocity.	Prevailing direction.	Velocity.	Direction.	Date.	Gales (40 miles per hour or over).	Clear.	Partly cloudy.	Cloudy.	With precipitation (0.01 in. or more).	Snow.	Thunderstorms.	Dense fog.	Max. temp.		Min. temp.				
	Maximum.	Minimum.	Monthly.	Highest.																					Date.	Lowest.	Date.	32° or below.	90° or above.	32° or below.	90° or above.
January...	40.0	24.2	32.1	56	14	25	66	2.24	1.06	14-15	3.6	163	55	11.5	W.	39	NW.	25	0	10	12	10	0	5	0	21	1				
February.	39.6	25.5	32.6	59	16	25	74	2.64	1.33	20	23.2	159	54	10.3	W.	36	E.	28	0	6	8	11	0	0	3	0	21	0			
March.....	55.8	36.7	46.2	83	21	5	77	1.92	0.52	12-13	T.	210	57	11.3	SW.	37	SW.	31	0	10	10	1	4	2	0	0	7	0			
April.....	59.5	44.0	51.8	77	9	2	75	4.62	3.19	30-1	T.	174	43	9.7	E.	28	N.	11	0	8	13	2	1	4	0	0	1	0			
May	66.1	50.0	58.0	93	21	1	72	3.64	0.91	13	0	288	64	10.0	E.	32	E.	5	0	10	15	6	0	1	2	0	0	0			
June	77.1	59.3	68.2	93	22	5	62	3.58	3.20	29-30	0	332	73	9.8	SW.	30	N.	15	0	12	12	6	0	5	3	0	2	0			
July	80.3	66.2	73.2	95	28	1	82	11.69	6.04	9	0	274	59	8.0	SW.	29	W.	28	0	5	12	14	0	7	3	0	6	0			
August....	78.0	61.6	69.8	92	30	27	72	1.63	1.12	18	0	339	79	9.1	SW.	30	NW.	18	0	18	10	3	5	0	2	0	1	0			
September	76.9	60.1	68.5	93	3	27	70	1.22	0.53	21-22	0	269	72	8.9	SW.	31	W.	18	0	15	6	11	0	4	1	0	2	0			
October...	63.8	46.6	55.2	79	15	26	70	1.24	0.53	3	0	224	65	10.1	W.	39	W.	8	0	12	12	7	6	0	0	0	1	0			
November	47.7	35.4	41.6	72	19	25	81	6.19	1.67	27-28	1.6	94	32	10.6	W.	43	W.	5	1	7	5	18	7	0	4	0	0	9	0		
December.	38.8	24.1	31.4	59	18	22	64	2.35	0.56	2-3	4.4	132	46	11.8	W.	39	S.	18	0	9	9	13	10	1	0	7	0	23	0		
Year..	60.3	44.5	52.4	95	July 28	Jan. 25	72	42.96	6.04	July 9	32.8	2638	58	10.1	W.	43	W.	Nov 5	1	122	127	116	125	41	25	19	15	13	83	1	

596-7.106
1917
U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU

CHARLES F. MARVIN, Chief
Jan. 4, 1918

ANNUAL METEOROLOGICAL SUMMARY

WITH COMPARATIVE DATA

1917

BOSTON, MASS.

COMPILED UNDER THE DIRECTION OF

JOHN W. SMITH

METEOROLOGIST

BOSTON, MASS.

WEATHER BUREAU OFFICE

JANUARY 2, 1918

MONTHLY AND ANNUAL PRECIPITATION.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.	An'l.
1818..	2.64	3.49	4.05	6.15	5.96	3.47	4.08	0.46	7.81	2.11	1.91	0.86	42.99
1819..	0.70	2.27	6.21	3.74	3.06	3.56	2.02	4.38	5.29	1.40	1.22	1.63	35.48
1820..	3.12	4.25	4.90	0.45	5.08	3.42	4.19	5.15	2.43	5.39	3.00	2.80	44.18
1821..	1.41	4.42	2.53	4.90	4.84	2.79	2.35	1.58	4.73	2.29	3.12	1.93	36.89
1822..	1.29	2.34	2.02	2.99	0.78	3.54	4.32	1.20	2.15	2.53	2.58	1.46	27.20
1823..	3.00	4.57	7.72	2.21	6.40	0.93	5.74	1.98	1.95	3.95	1.72	6.93	47.30
1824..	3.95	5.99	1.81	4.72	1.43	1.60	0.88	3.68	6.43	1.01	1.72	2.80	36.02
1825..	2.79	3.43	4.70	0.37	1.36	4.77	1.24	5.62	2.66	3.21	0.81	4.38	35.34
1826..	2.55	1.48	3.81	1.50	0.25	3.85	2.90	12.10	3.03	3.80	2.31	3.56	41.14
1827..	3.92	2.97	2.51	4.75	5.34	2.56	2.59	4.88	4.81	5.28	5.71	3.59	48.91
1828..	2.15	2.79	1.84	2.00	4.67	1.59	4.58	0.37	3.82	2.79	5.55	0.26	32.41
1829..	4.93	5.62	4.30	3.45	2.71	1.64	6.98	4.95	2.62	1.65	5.74	2.26	46.85
1830..	2.36	1.63	3.51	1.21	3.93	3.46	4.90	2.64	5.65	2.38	5.32	5.96	42.05
1831..	4.44	3.68	3.07	6.97	3.65	4.32	5.53	5.57	3.83	4.42	3.20	2.93	51.61
1832..	4.47	3.74	2.65	5.56	7.27	0.50	3.41	6.14	2.07	2.46	3.57	4.85	46.69
1833..	2.96	2.53	2.71	2.30	1.03	3.23	2.01	0.82	2.88	6.00	5.53	5.86	37.86
1834..	1.39	1.13	0.96	2.93	6.33	3.09	7.71	2.47	3.71	4.62	2.90	2.36	39.60
1835..	3.25	1.37	4.27	4.54	2.07	2.74	9.07	2.89	1.31	1.87	2.08	2.40	37.86
1836..	8.84	3.57	2.90	1.58	1.85	4.33	2.12	1.53	0.54	4.04	5.43	4.13	40.86
1837..	4.10	4.14	3.02	3.07	5.79	2.98	1.80	1.67	0.56	1.58	2.35	2.46	33.52
1838..	3.07	2.77	3.09	2.62	3.32	2.55	1.20	4.26	9.87	5.02	3.95	0.80	42.52
1839..	0.98	3.11	1.18	7.73	4.27	2.25	3.32	5.70	2.00	2.50	1.71	6.35	41.10
1840..	3.12	2.57	4.55	4.60	2.23	2.78	2.93	4.00	2.12	4.48	11.63	4.15	19.16
1841..	6.00	1.60	3.50	8.82	1.90	1.95	2.10	4.20	2.86	3.80	4.55	5.77	47.05
1842..	0.80	3.20	3.35	3.50	2.90	5.30	1.82	4.44	3.25	0.80	4.45	5.30	39.11
1843..	2.20	6.08	6.17	3.88	1.60	4.61	2.15	6.88	0.98	4.82	3.40	3.92	46.69
1844..	3.68	2.42	6.00	0.20	2.72	1.40	2.17	2.62	3.53	5.80	3.15	3.85	37.54
1845..	4.58	4.25	3.83	1.23	2.82	2.05	3.28	1.82	2.23	4.00	10.25	5.98	46.32
1846..	3.12	2.95	2.73	1.23	2.02	2.25	2.51	1.80	1.30	1.35	4.17	4.52	29.95
1847..	3.28	4.70	4.77	2.20	2.03	4.09	2.65	6.45	6.64	1.05	5.12	3.95	46.93
1848..	2.30	3.90	4.05	1.40	6.30	1.73	1.35	3.10	3.55	5.10	2.25	5.95	40.98
1849..	0.35	1.15	7.35	0.90	3.10	1.45	0.85	6.25	1.25	8.10	5.50	4.05	40.30
1850..	4.59	2.52	5.32	4.82	6.63	2.77	2.70	5.30	7.15	2.10	3.32	6.76	53.98
1851..	1.30	4.20	3.88	9.37	3.31	1.80	3.09	1.27	3.50	4.43	5.51	2.65	44.31
1852..	4.85	2.85	4.45	10.18	1.95	2.35	3.28	7.63	1.65	2.19	3.47	3.09	47.94
1853..	2.44	5.30	2.27	3.78	5.63	0.30	3.64	9.40	3.80	3.92	4.43	3.95	18.86
1854..	2.91	4.87	2.84	6.63	4.33	2.47	3.70	0.58	3.86	2.08	6.80	4.64	45.71
1855..	7.22	4.67	1.18	4.28	1.20	3.09	4.15	1.46	1.13	4.61	5.27	5.93	14.19
1856..	5.32	0.80	1.33	4.37	7.10	2.90	4.02	11.11	4.90	2.70	3.33	4.28	52.16
1857..	5.36	2.45	3.09	10.83	5.57	2.02	5.53	1.18	2.56	4.50	2.52	5.26	50.87
1858..	3.28	2.30	2.18	5.18	3.89	8.09	4.56	7.03	5.02	3.03	3.38	4.73	52.67
1859..	5.93	4.05	7.64	3.36	3.63	7.89	1.58	4.72	4.40	3.28	3.75	6.47	56.70
1860..	1.89	3.85	2.19	1.73	2.35	8.01	5.90	4.30	7.35	2.66	5.37	5.86	51.46
1861..	6.04	3.57	7.48	5.89	2.97	3.64	2.76	6.04	1.77	2.66	4.90	2.35	50.07
1862..	8.30	3.29	4.70	1.97	2.70	6.78	7.33	4.20	5.61	4.85	8.32	3.01	61.06
1863..	4.51	4.54	6.42	9.08	2.82	2.56	12.38	5.64	3.12	3.83	6.48	6.34	67.72
1864..	3.87	1.43	11.75	4.72	3.31	1.47	1.90	4.17	2.60	4.80	4.00	5.28	49.30
1865..	4.47	5.08	4.83	2.57	6.90	2.83	4.26	1.42	0.62	6.21	4.46	4.18	47.83
1866..	3.73	5.28	4.70	2.03	5.04	3.41	5.42	3.87	5.90	2.72	3.74	4.86	50.70
1867..	6.06	6.55	6.12	2.52	4.11	2.74	4.76	10.78	0.44	6.76	2.32	2.48	55.64
1868..	6.09	1.88	5.04	6.94	10.38	3.79	1.10	7.53	11.95	1.78	5.31	2.12	64.11
1869..	4.03	9.98	8.74	2.05	6.88	4.44	3.30	2.19	5.18	6.71	3.74	9.04	66.28
1870..	8.16	7.03	4.88	8.42	2.58	7.59	4.01	1.57	0.67	6.80	4.40	3.62	59.73
1871..	0.92	2.63	4.55	3.79	4.34	5.55	3.22	3.08	1.30	5.88	6.42	3.38	45.06
1872..	2.11	2.31	4.05	1.31	3.29	4.84	4.00	10.68	6.04	4.85	3.66	3.09	50.23
1873..	5.76	3.21	3.76	3.83	5.16	0.54	3.84	6.21	2.91	5.33	8.34	5.64	54.53
1874..	4.32	3.41	1.60	7.97	3.71	3.94	3.47	6.67	2.05	1.39	2.85	2.14	43.52
1875..	3.68	3.74	5.04	4.92	3.76	7.25	3.93	3.50	3.12	4.99	5.47	0.75	50.15
1876..	1.87	4.54	7.19	3.61	2.70	1.72	5.86	1.23	3.84	1.66	11.03	3.71	48.96
1877..	3.33	0.45	9.79	4.19	3.38	3.21	2.27	4.49	0.60	8.84	9.62	1.32	51.49
1878..	7.60	4.40	5.91	6.14	1.03	2.28	4.58	7.66	3.47	6.76	8.94	6.76	65.53
1879..	2.79	4.35	3.90	6.58	0.97	6.24	3.09	6.71	1.84	0.91	2.97	4.22	44.57
1880..	3.72	4.11	3.25	2.85	1.63	0.75	6.86	2.90	2.36	3.15	2.30	3.42	37.30
1881..	7.21	4.89	9.86	1.66	4.16	7.79	2.96	1.23	2.50	2.84	3.73	3.80	52.63
1882..	3.68	4.77	3.35	2.50	6.05	1.03	3.91	1.46	10.93	2.29	1.20	2.65	43.82
1883..	3.59	2.74	2.33	2.83	5.11	2.07	2.73	0.39	1.50	6.40	2.08	3.71	35.48
1884..	6.27	5.74	4.86	4.76	3.31	4.01	4.25	5.01	0.31	3.17	3.03	4.46	49.18
1885..	5.33	3.00	1.15	3.30	4.26	3.70	1.44	7.64	1.70	5.71	5.78	2.09	45.10
1886..	7.08	7.04	3.20	1.70	3.08	1.34	1.81	3.64	2.73	3.27	3.59	3.66	42.14
1887..	4.86	3.69	3.86	2.62	1.67	1.98	3.59	3.05	0.97	2.53	2.22	2.71	33.75
1888..	2.26	2.36	3.32	2.04	5.20	2.69	1.79	6.53	6.77	3.58	4.97	4.38	45.89
1889..	4.11	1.54	1.19	3.07	4.15	2.77	5.80	3.95	3.19	3.31	4.91	1.83	39.82
1890..	2.00	2.29	5.88	2.29	4.48	2.21	1.93	2.70	5.04	5.63	0.97	3.72	39.14
1891..	4.39	3.66	3.94	1.71	1.56	3.06	3.73	3.87	2.29	5.56	2.35	3.58	39.70
1892..	4.62	2.15	3.91	0.93	5.15	3.05	2.56	4.87	1.90	2.31	4.45	1.12	37.02
1893..	2.56	6.22	2.80	3.13	5.23	2.20	1.72	6.46	1.59	2.94	1.83	5.16	41.84

MONTHLY AND ANNUAL PRECIPITATION—Continued.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Anl.
1894..	3.01	3.15	1.01	3.78	4.12	0.80	3.09	3.03	2.14	5.11	3.10	4.28	36.62
1895..	3.79	1.11	2.72	3.65	2.71	1.73	2.93	3.24	1.53	6.19	8.07	2.45	40.17
1896..	2.25	3.94	5.41	1.56	1.63	2.71	2.90	2.15	6.40	3.15	3.70	1.70	37.55
1897..	3.16	2.12	2.79	3.17	4.00	4.46	4.22	3.95	2.38	0.41	6.19	3.92	40.77
1898..	3.50	4.81	1.82	6.39	4.33	1.60	4.42	6.33	1.93	7.17	5.32	2.19	49.86
1899..	4.19	3.03	5.95	1.29	0.81	2.86	2.52	2.52	5.09	2.40	2.51	1.52	34.69
1900..	4.20	6.83	4.60	1.90	5.07	1.85	2.69	2.46	4.62	3.41	4.17	2.25	44.05
1901..	1.56	0.66	6.58	7.43	6.31	1.31	5.20	3.25	2.50	3.02	2.41	8.49	48.72
1902..	1.65	4.19	5.29	2.87	1.07	1.77	2.83	2.20	2.08	4.36	1.09	4.48	33.93
1903..	3.43	3.90	5.95	4.43	0.32	7.19	2.99	3.33	2.43	3.95	1.48	2.57	41.97
1904..	4.80	2.49	2.43	9.14	3.38	2.06	1.23	2.19	5.57	2.13	1.70	2.52	39.64
1905..	4.09	1.59	2.25	2.14	1.47	5.23	1.00	3.39	5.10	0.82	1.77	3.23	32.08
1906..	2.96	2.66	5.45	2.15	4.91	2.57	5.38	1.53	2.64	3.88	2.55	3.96	40.69
1907..	2.54	1.88	1.66	3.31	3.12	2.56	1.09	1.10	7.43	2.54	6.02	4.31	37.56
1908..	2.47	2.96	2.97	1.70	3.78	1.08	3.17	4.35	0.68	3.70	0.74	2.47	30.07
1909..	3.94	4.71	3.28	3.92	2.33	4.45	0.97	3.55	5.15	1.07	4.11	3.19	40.67
1910..	4.25	3.44	1.25	2.22	1.02	4.89	1.15	0.98	2.14	1.14	3.75	2.10	23.33
1911..	2.28	2.85	2.95	2.28	0.35	3.67	4.65	4.17	2.95	2.27	4.29	3.07	35.78
1912..	2.87	2.38	4.18	3.07	4.04	0.27	5.16	1.94	1.67	1.00	2.61	5.36	34.55
1913..	2.38	2.99	4.81	4.77	3.22	0.64	2.69	2.86	2.51	6.04	2.15	3.05	38.11
1914..	3.26	3.07	4.16	5.87	2.75	1.40	2.64	3.20	0.21	1.54	2.72	3.46	34.31
1915..	6.33	3.47	T.	1.86	1.61	1.39	8.85	5.63	0.69	2.82	2.14	3.94	33.76
1916..	1.23	5.18	3.20	4.51	2.83	5.04	5.67	2.19	1.90	0.94	1.67	3.00	37.36
1917..	2.82	2.67	3.73	2.72	4.45	4.05	1.10	7.06	1.91	5.33	0.59	2.56	38.99
M'n's	*3.64	3.40	3.90	3.59	3.26	2.92	3.36	3.84	2.99	3.57	3.78	3.35	41.53
M'n's	†3.69	3.50	4.04	3.73	3.55	3.11	3.52	4.04	3.32	3.60	3.98	3.72	43.86

NOTE.—Bold-faced figures indicate greatest and least monthly amounts.

* Computed from the Weather Bureau records of 47 years.

† Computed from the 100-year record, the data of years prior to 1871 being furnished by Mr. I. Y. Chubbuck, of Roxbury.

MISCELLANEOUS DATA FOR 1917.

Barometric Pressure (reduced to sea-level). Mean, 30.00 inches; highest, 30.84 inches, December 17; lowest, 28.88 inches, February 9.

Temperature. Following are the monthly temperature averages. The first value is the average for the month in 1917, and the second the mean for the month for all the years of record. January, 30°, 28.0°; February, 26°, 28.0°; March, 37°, 35.6°; April, 44°, 46.0°; May, 51°, 57.1°; June, 66°, 66.3°; July, 73°, 72.0°; August, 73°, 69.9°; September, 60°, 63.3°; October, 52°, 53.1°; November, 39°, 41.9°; December, 24°, 31.7°; mean annual temperature 1917, 47.9°; mean annual for 47 years, 49.4°.

Greatest daily range, 40°, January 11; least daily range, 3°, April 2. Greatest monthly range, 56°, February; least monthly range, 34°, October. Highest mean temperature of three consecutive days, 87°, July 31–August 2; lowest mean temperature of three consecutive days, –3°, December 29–31.

Precipitation. Longest period without precipitation, 21 days, October 31 to November 20. Longest period with precipitation, 5 days, June 8–12.

Frost. In Spring—Last killing frost occurred on April 11. In Autumn—First killing frost occurred on November 5.

Snow. Greatest snowfall in 24 hours, 9.1 inches, April 9. Greatest depth of snow on the ground, 8.4 inches, April 9. Last snow in spring occurred on May 6; first snow in autumn occurred on October 24.

Thunderstorms. First thunderstorm, February 5; last thunderstorm, October 28.

SUMMARY FOR YEAR 1917, BOSTON, MASS.

Month.	Temperature.				Relative humidity (per cent).		Precipitation.				Sun's'ne		Wind.			Number of days.															
	Mean.		Extremes.		Date.	Lowest.	Date.	Highest.	Total.	Greatest in 24 hours.	Date.	Snowfall.	Number of hours.	Per cent of possible.	Average hourly velocity.	Prevailing direction.	Velocity.	Direction.	Date.	Clear.	Partly cloudy.	Cloudy.	With precipitation (0.01 in. or more).	Snow.	Thunderstorms.	Dense fog.	32° or below.	90° or above.	Min. temp. 32° or below.		
																														Maximum.	Minimum.
	38	23	30	55	14	5	12	73	73	.88	5-6	13.1	118	40	11.2	W.	39	SW.	14	0	9	5	17	12	8	0	0	10	0		
January...	34	18	26	53	27	—	3	71	66	.72	31-1	8.9	171	58	12.0	W.	39	W.	3	0	12	8	8	11	6	1	0	13	0	26	2
February .	44	30	37	61	26	17	5	72	69	1.45	4-5	12.9	224	61	12.5	W.	45	ne.	5	1	12	10	9	13	7	0	0	2	0	19	0
March.....	50	38	44	72	23	26	10	76	75	1.23	6-7	9.1	204	51	10.2	NW.	33	NW.	10	0	10	6	14	11	1	1	2	0	0	3	0
April.....	58	44	51	80	20	36	6	75	79	1.40	5-6	T.	214	47	11.2	NW.	31		5	0	9	5	17	14	0	2	0	0	0	0	0
May	74	57	66	87	20	50	11	80	78	1.47	17	0	257	56	8.5	SW.	30	W.	17	0	9	9	12	13	0	5	6	0	0	0	0
June	81	66	73	98	30	56	10	77	78	.73	27	0	306	66	8.9	SW.	27	N.	27	0	10	15	6	7	0	3	1	0	5	0	0
July.....	81	65	73	98	1	58	26	77	76	3.60	9-10	0	307	72	8.1	SW.	27	NW.	2	0	15	11	5	10	0	8	4	0	2	0	0
August....	68	52	60	83	19	40	24	76	79	1.47	17-18	0	267	71	7.7	SW.	25	SW.	6	0	16	9	5	7	0	2	1	0	0	0	0
September	60	44	52	71	19	37	12	78	77	1.81	24	T.	186	54	10.9	SW.	48	ne.	24	2	11	6	14	14	0	1	0	0	0	0	0
October ...	47	32	39	65	18	13	27	68	60	.40	21-22	2.2	193	65	10.9	NW.	33	NW.	26	0	16	7	7	3	1	0	0	0	0	12	0
November	32	16	24	48	9	—14	30	73	67	1.19	1	7.0	112	39	12.3	NW.	48	e.	8	2	6	8	17	12	9	0	0	14	0	29	3
December.	55.5	40.4	47.9	98	July 30	—14	Dec. 30	75	73	3.60	Aug. 9-10	53.2	2557	57	10.4	W.	48	ne.	Oct 24	5	135	99	131	127	32	23	14	42	7	116	5
Year..																															

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